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(54) *GENE THERAPY* FOR INHIBITION OF ANGIOGENESIS

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No Image Available.

Abstract

The present invention relates to methods of *gene therapy* for inhibiting angiogenesis associated with solid tumor growth, tumor metastasis, inflammation, psoriasis, rheumatoid arthritis, hemangiomas, diabetic retinopathy, angiofibromas, and macular degeneration. *Gene therapy* methodology is disclosed for inhibition of primary tumor growth and metastasis by gene transfer of a nucleotide sequence encoding a soluble form of a *VEGF* tyrosine kinase receptor to a mammalian host. The transferred nucleotide sequence transcribes mRNA and a soluble receptor protein which binds to *VEGF* in extracellular regions adjacent to the primary tumor and vascular endothelial cells. Formation of a sVEGF-R/*VEGF* complex will prevent binding of *VEGF* to the KDR and FLT-1 tyrosine kinase receptors, antagonizing transduction of the normal intracellular signals associated with vascular endothelial cell-induced tumor angiogenesis. In addition, expression of a soluble receptor tyrosine kinase may also impart a therapeutic effect by binding either with or without VEGFs to form non-functional heterodimers with full-length *VEGF* -specific tyrosine kinase receptors and thereby inhibiting the mitogenic and angiogenic activities of VEGFs.

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